Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

DESIGN REPORT FOR THE CONSTRUCTION/ALTERATION OF IMPOUNDING STRUCTURES

Reference: Impounding Structure Regulations, 4VAC50-20-00 et seq., Virginia Soil & Water Conservation Board

Please fill out and mail to:
Department of Conservation and Recreation
Division of Dam Safety
203 Governor Street
Richmond, Virginia 23219-2094

1. Project Information:
   a. Proposed Construction: _____

      Alteration: _____

   b. Name of Impounding Structure: _____

   c. Inventory Number: _____(Leave blank if new Construction)

   d. Name or Reservoir: _____

   e. Purpose of Reservoir: _____

2. Impounding Structure Classification:
   a. Size Classification Table I Impounding Structure Regulations

      Large Medium Small (Circle One)

   b. Hazard Potential Classification Table I Impounding Structure Regulations

      Class I Class II Class III Class IV (Circle One)

3. Location of Impounding Structure:
   a. City/County: _____ Magisterial District: _____

   b. Located _____feet/miles upstream/downstream of Highway # _____

   c. Name of River of Stream: _____

   d. Latitude: _____ Longitude: _____

4. Ownership:

   a. Owner's Name: _____

b. Mailing Address: _____

_____

c. Telephone: (____) _____

5. Design Engineer:

a. Design Engineer/Design Firm: _____

b. Design Engineer Virginia Number: _____

c. Mailing Address: _____

_____

d. Telephone: (_____) _____

6. Impounding Structure Data

a. Type of material _____earth _____concrete _____masonry _____other

_____

Note: All elevations NGVD unless noted.
For new construction complete the design configuration column
For alteration complete both the existing and design configuration column

		Existing Configuration	Design Configuration
b.	Top of Dam	_____	_____Elev.
c.	Downstream Toe (Lowest)	_____	_____Elev.
d.	Height of Dam	_____	_____Feet
e.	Crest Length(Less Spillway)	_____	_____Feet
f.	Crest Width	_____	_____Feet.
g.	Upstream Slope	_____H: ____V	_____H: _____V
h.	Downstream Slope	_____H: ____V	_____H: _____V

7. Reservoir Data:

		Existing Configuration	Design Configuration
a.	Maximum Capacity	_____	_____Acre-Feet
b.	Maximum Pool	_____	_____Elev.
c.	Maximum Pool Surface Area	_____	_____Acres

d.	Normal Capacity	_____	_____Acre-Feet
e.	Normal Pool	_____	_____Elev.
f.	Normal Pool Surface Area	_____	_____Acres
g.	Freeboard (Normal Pool to Top)	_____	_____Feet

8. Spillway Data:

		Type	Construction Material	Design Configuration
a.	Low Level Drain	_____	_____	_____
b.	Principal Spillway	_____	_____	_____
c.	Emergency Spillway	_____	_____	_____

		Existing Configuration	Design Configuration
d.	Low Level Drain (low inlet)	_____	_____Elev.
e.	Principal Spillway (high inlet)	_____	_____Elev.
f.	Emergency Spillway (crest)	_____	_____Elev.

9. Watershed Data:

a. Drainage Area_____ Sq. Miles

b. Type and extent of Watershed Development: _____

_____

_____

c. Time of Concentration: _____ Method: _____

d. Spillway Design Flood used (check and state source)

_____PMF, source: _____

_____1/2PMF, source: _____

_____100 Year, source: _____

_____50 year, source: _____

_____Other, source: _____

e. Design inflow hydrograph: Volume _____acre-feet: Peak inflow _____CFS

Rainfall duration of design inflow hydrograph _____hours

f. Freeboard during passage of spillway design flood _____feet.

10. Additional Information:

Provide as attachments to the Design Report the following information. Note: For alteration permits the detail of this information is to be in accordance with the scope of the proposed alteration:

a. A description of properties located in the inundation zone downstream from the site of the impounding structure, including the location and number of residential structures, buildings, roads, utilities and other property that would be endangered should the impounding structure fail.

b. A statement from the governing body of the local political subdivision or other evidence confirming that this body is aware of the proposal to build or alter an impounding structure and of the land use classifications applicable to the inundation zone.

c. Maps showing the location of the impounding structure that include: the county or city in which the impounding structure is located, the location of roads, access to the site and the outline of the impoundment.

d. A report of the geotechnical investigation(s) of the foundation soils or bedrock and of the materials to be used to construct the impounding structure.

e. Design assumptions and analyses sufficient to indicate that the impounding structure will be stable during construction and during the life of the impounding structure under all conditions of reservoir operations, including rapid filling and rapid drawdown of the impoundment.

f. Confirmation of the stability of the reservoir rim area in order to safeguard against reservoir rim slides of such magnitude as to create waves capable of overtopping the impounding structure and confirmation of rim stability during seismic activity.

g. Design assumptions and analyses sufficient to indicate that seepage in, around, through, or under the impounding structure, foundation, and abutments will be reasonably and practically controlled so that internal or external forces or results thereof will not endanger the stability of the impounding structure.

h. Calculations and assumptions relative to design of the spillway(s).

i. A description of provisions to insure that the impounding structure and appurtenances will be protected against deterioration or erosion due to freezing and thawing, wind and rain, or any combination thereof.

j. List and provide any other pertinent design data, assumptions, and analyses commensurate with the nature of the impounding structure and specific site conditions:

_____

_____

_____

k. A proposed schedule indicating construction sequence and time to completion.

l. A proposed impoundment and impounding structure operating schedule.

m. A proposed impoundment and impounding structure maintenance schedule.

n. A proposed inspection schedule to be utilized in making periodic safety inspections during the life of the project.

11. SUMMARY DATA SHEET

Name of Dam: _____ Inventory Number: _____

Location (stream): _____ County: _____

Owner: _____

Address: _____

City/Town: _____ Zip Code: _____

Designed By: _____ Design Year: _____

Constructed By: _____ Completion Year: _____

Alteration Designed By: _____ Alteration Design Year_____

Alteration Construction By: _____ Alteration Completion Year: _____

Type of Dam: _____ Purpose: _____

Drainage Area (Sq. Mi.): _____ Type of Watershed: _____

Total Height; Crest (Ft.): _____ Elevation: _____

Normal Pool Height (Ft.): _____ Elevation: _____

Maximum Capacity (Acre Ft.): _____ Maximum Area (Acres): _____

Normal Capacity (Acre Ft.): _____ Normal Area (Acres): _____

Size Classification: _____ Hazard Classification: _____

Required Spillway Design Flood: _____

Available Spillway Design Flood: _____

Type of Emergency Spillway: _____

Emergency Action Plan filed with:

( ) Virginia Department of Emergency Management

( ) Local Coordinator of Emergency Services County/City: _____

CERTIFICATION BY OWNER'S ENGINEER

I hereby certify that the information provided in this form and the attachments to this form have been examined by me and found to be true and correct in my professional judgment.

Signed: _____

(Professional Engineer)

Virginia Number: _____

This _____day of _____, 20 _____.